WHAT IS CLAIMED IS:

**[C001]** 1. A method for making a component, said method comprising:

providing a single-piece sacrificial die, said die comprising at least one internal cavity;

introducing a ceramic slurry into said at least one cavity of said die, said slurry comprising a ceramic and a carrier fluid;

curing said slurry to form a ceramic casting core;

removing said sacrificial die by exposing said die to an environment adapted to destroy said die while leaving said ceramic casting core intact; and

performing an investment casting process using said ceramic casting core as part of a mold-core assembly to form said component.

**[C002]** 2. The method of claim 1, wherein providing said single-piece sacrificial die comprises producing said die by at least one additive layer manufacturing process.

**[C003]** 3. The method of claim 2, wherein said additive layer manufacturing process comprises stereolithography.

**[C004]** 4. The method of claim 2, wherein said additive layer manufacturing process comprises at least one of micro-pen deposition, selective laser sintering, and laser wire deposition.

**[C005]** 5. The method of claim 1, wherein said die comprises at least one sacrificial material selected from the group consisting of an epoxy, a silicone, and a metal.

**[C006]** 6. The method of claim 1, wherein said ceramic slurry comprises at least one of alumina, yttria, ceria, zirconia, magnesia, and calcia.

**[C007]** 7. The method of claim 1, wherein said component comprises an external wall and at least one internal wall disposed in a spaced-apart relationship with said external wall.

**[C008]** 8. The method of claim 1, wherein introducing said slurry comprises operating an injection molding apparatus to introduce said slurry into said cavity of said die.

**[C009]** 9. The method of claim 1, wherein curing comprises heating said slurry to evaporate said carrier fluid.

**[C010]** 10. The method of claim 1, wherein removing said die comprises heating said die.

**[C011]** 11. The method of claim 1, wherein removing said die comprises dissolving said die in a solvent.

**[C012]** 12. The method of claim 1, wherein removing said die comprises chemically removing said die.

**[C013]** 13. The method of claim 1, wherein said component is a component of a turbine assembly.

**[C014]** 14. The method of claim 13, wherein said component comprises one of a vane and a blade.

**[C015]** 15. The method of claim 14, wherein said component comprises an external wall and at least one internal wall disposed in a spaced-apart relationship with said external wall.

**[C016]** 16. The method of claim 14, wherein said component comprises at least one internal cooling passage.

**[C017]** 17. The method of claim 16, wherein said at least one passage further comprises turbulators.

**[C018]** 18. A method for making a component for a turbine assembly, said method comprising:

using a stereolithography process to provide a single-piece sacrificial die, said die comprising at least one internal cavity;

introducing a ceramic slurry into said at least one cavity of said die, said slurry comprising a ceramic and a carrier fluid;

curing said slurry to form a ceramic casting core;

removing said sacrificial die by exposing said die to an environment adapted to destroy said die while leaving said ceramic casting core intact; and

performing an investment casting process using said ceramic casting core as part of a mold-core assembly to form said component;

wherein said component comprises an external wall and at least one internal wall disposed in a spaced-apart relationship with said external wall, and further comprises at least one cooling passage disposed between said external wall and said internal wall.

**[C019]** 19. A method for making a casting core, comprising:

manufacturing a single-piece sacrificial die using an additive layer manufacturing method, said die comprising at least one internal cavity;

introducing a ceramic slurry into said cavity of said die, said slurry comprising a ceramic and a carrier fluid;

curing said slurry to form a ceramic casting core; and

removing said sacrificial die by exposing said die to an environment adapted to destroy said die while leaving said ceramic casting core intact.

**[C020]** 20. The method of claim 19, wherein said additive layer manufacturing process comprises stereolithography.

**[C021]** 21. The method of claim 19, wherein said additive layer manufacturing process comprises at least one of micro-pen deposition, selective laser sintering, and laser wire deposition.

**[C022]** 22. The method of claim 19, wherein said die comprises at least one sacrificial material selected from the group consisting of an epoxy, a silicone, and a metal.

**[C023]** 23. The method of claim 19, wherein introducing said slurry comprises operating an injection molding apparatus to introduce said slurry into said cavity of said die.

**[C024]** 24. The method of claim 19, wherein removing said die comprises at least one of heating said die, dissolving said die in a solvent, and chemically removing said die.

**[C025]** 25. The method of claim 19, wherein said core is configured to form internal passages in an investment cast article.

**[C026]** 26. The method of claim 25, wherein said article comprises an external wall and at least one internal wall disposed in a spaced-apart relationship with said external wall, and further comprises at least one cooling passage disposed between said external wall and said internal wall.

**[C027]** 27. The method of claim 25, wherein said article is a component of a turbine assembly.

**[C028]** 28. A casting core manufactured by the method of claim 19.

**[C029]** 29. A die for making a casting core, comprising:

a single piece structure comprising at least one cavity;

wherein said structure comprises a material capable of being selectively removed from a ceramic casting core when said ceramic casting core is disposed in said at least one cavity.

**[C030]** 30. The die of claim 29, wherein said structure comprises a structure assembled in an additive layer manufacturing process.

**[C031]** 31. The die of claim 30, wherein said additive layer manufacturing process comprises stereolithography.

**[C032]** 32. The die of claim 30, wherein said material comprises at least one sacrificial material selected from the group consisting of an epoxy, a silicone, and a metal.